National Weather Service
Implementation Plan For
Reconstruction Work In
Dominican Republic
Year 2
(First Draft)

NWS Implementation Plan For Reconstruction Work In
The Dominican Republic

I. Problem Statement

Hurricane Georges caused widespread devastation across the Dominican Republic and brought to light a number of problems areas that should be addressed in order to recover from the damage and to be better prepared to protect life and property from future natural disasters. These problem areas can be grouped into five headings: (1) Base Infrastructure; (2) Forecast and Early Warning Systems; (3) Disaster Preparedness and Response; (4) Sustainable, Resilient Coastal Communities; and (5) Economic Revitalization. This plan addresses item three, Disaster Preparedness and Response.

Disaster Preparedness and Response

One of the problems that became obvious as a result of Hurricane Georges was a need for disaster preparedness and response infrastructures for forecasting, managing, and mitigation of weather-related natural disasters. Disaster preparedness and response for future disastrous natural events depends to a large extent on the restoration and development of the following:

Decision Support System For Routing Reservoir Flood Flows

As Hurricane Georges passed over the Dominican Republic large amounts of rain fell in the interior mountains causing rapid and sometimes disastrous flooding. Reservoirs quickly filled to their maximum flood storage capacity. Decisions on timing and quantity of releases from the dams had to be made quickly and without sufficient information. Post hurricane analysis showed that some mistakes were made. An example was the unfortunate timing of the release of water from a reservoir on Rio San Juan during already flooding conditions, thereby contributing significantly to loss of lives and property. A decision support system, with adequate hydrometeorological data input, needs to be in place in order to make the best decisions possible for public safety and for maximizing economic use of river flow.

Hydrometeorological Data *Collection Networks*

Current information indicates that much of the hydrometeorological monitoring network existing before Hurricane George was destroyed or is in a state of disrepair. A network of data collection platforms, supporting meteorological and hydrological instruments, and a communications system is essential for forecasting and for early warnings of severe weather and other natural events and to promote safe and efficient air and marine transportation.

There is almost no capability to forecast tropical storms and floods. Little real-time hydrometeorological data is available to use to develop early warning forecasts of severe weather and flooding.

Hydrometeorological monitoring networks must be rebuilt and improved to support national and regional data needs, including support of U.S. regional responsibilities for tropical cyclone forecasting.

National and regional disaster preparedness and response infrastructures for forecasting, managing, and mitigating weather-related natural disasters must also be rebuilt and improved. Basic capabilities must be built to develop national and regional water resources management and early warning tools.

II. Approach

The National Weather Service's (NWS) plan is designed to address some of the problems identified in Section I. In meetings with USAID, the National Meteorological Office Services (OSNM), the National Institute of Water Resources (INDRHI), and the World Bank it was pointed out that the Bank had approved $111.11 million equivalent to the Dominican Republic for a hurricane Georges Emergency Recovery Project. However, as of this date none of the monies for rebuilding and upgrading meteorological forecasting and hazard warning capabilities have been released to the D.R. because the agency does not have the technical ability to produce plans and to submit them in an acceptable format for World Bank approval.

The NWS proposes two tasks:

Task 1: Prepare a plan for acquiring a decision-making matrix to be used by INDRHI to manage releases from reservoirs during storm events in a safe and economical manner. This plan will be for one reservoir and will be a model that can be used throughout the Country.

Task 2: Furnish an experienced person to assist OSNM to produce a plan for reconstruction and improvement of the meteorological data collection network and for improving forecasting and early warning capabilities and to put this plan in an acceptable format to meet World Bank standards. This person speaks fluent Spanish and is experienced in helping Caribbean agencies in meeting the requirements of the World Bank for release of loan funds. By providing this assistance NWS will be helping the Dominican Republic in rebuilding the forecast and early warning systems, which are essential for improving disaster preparedness and response capabilities.

As part of this task NWS will provide training for a person employed by OSNM to improve hydrometeorological forecasting ability and to aid OSNM in carring out their responsibilities during hurricanes, floods, and other natural disasters. The training, at a University in Costa Rica, will consist of 15 months of classroom study of hydrometeorological forecasting theory supplemented by intensive hands-on forecasting experience.

III Coordination of Activities

NWS will make every effort to ensure that its activities are coordinated with those of other donor programs, USAID's field missions, and other U.S. agencies. NWS will participate in conference calls with all involved U.S. agencies. All interested Dominican Republic agencies and NGOs are being asked to share their views of this plan. Close coordination is being maintained with the US Geological Survey.

IV Applicability To Other Plans

This plan is compatible with Dominican Republic reconstruction needs described in the USAID, World Meteorological Organization, and Department of Commerce plans and will be coordinated with USGS, USDA, USACE, FEMA, and other appropriate agencies.

V Prioritization

Priority will be given to assisting OSNM in preparing a plan for reconstruction and improvement that will meet the World Bank requirements for releasing emergency reconstruction loan monies.

VI NWS Project Management Plan For the Dominican Republic

Within NWS their will be a Program Manager who will coordinate all NWS Central America and Dominican Republic reconstruction activities and will be responsible for providing to the NOAA Program Manager timely reports of NWS activities for inclusion in quarterly progress reports to USAID. In addition there will be a NWS Country Manager for the Dominican Republic. The Country Manager for the Dominican Republic is Terry Lamb, a Civil Engineer and Hydrologist with many years of project planning and management experience. The Country Manager will be responsible for planning, scheduling, and oversight of the NWS Reconstruction Projects. In addition, the Country Manager will coordinate the project with USAID, OFAs, in country agencies, and NGOs, and will work closely with the NWS Program Manager to furnish all needed information for quarterly progress reports.

VII Sustainability Issues

This project will provide a plan for acquiring a flow routing matrix for reservoirs, assistance in obtaining loan funds to rebuild and improve the hazard forecasting and warning infrastructures, and training in better understanding of hydrometeorological forecasting. These items will help provide better climate and stream hazard warnings. However, this is only a 2-year project. Steps need to be taken by the Dominican Government Agencies involved to plan for the support of these services after this project is complete. Efforts should be made by these agencies to demonstrate how their improved capabilities aid the citizens, businesses, and other Government Agencies in their efforts to avoid catastrophic losses from storms and other natural hazards.

VIII Schedule

		FY2000			FY2001				FY2002
Task	1stQtr	2ndQtr	3rdQtr	4thQtr	1stQtr	2ndQtr	3rdQtr	4thQtr	1stQtr
Complete Strategic Implementation Plan									
Review Needs	X	X							
Assist with identifying users and products	X	X							
Assist with image building					X				
Prepare Plan For Decision Making Matrix									
Determine Needs	X	X	X						
Prepare Plan For Decision Making Matrix		X	X	X	X				
Assist In Preparing Reconstruction Plan									
Determine Needs	X	X							
Help OSNM Prepare Plan		X	X	X					
Help OSNM Prepare W B Documents		X	X	X					
Improve Forecasting Capability									
Determine Training Needs	X	X							
Train Hydrometeorological Forecaster			X	X	X	X	X	X	

IX Budget

	Budget	
Task	Tranche 1	Tranche 2
Complete Strategic Implementation Plan	$ x 1,000	
Review Needs	1	
Assist with identifying users and products	1	
Assist with image building	1	
Prepare Plan For Decision Making Matrix		
Determine Needs	4	
Prepare Plan For Decision Making Matrix	20	2
Assist In Preparing Reconstruction Plan		
Determine Needs	5	
Help OSNM Prepare Plan	30	
Help OSNM Prepare W B Documents	10	
Improve Forecasting Capibility		
Determine Training Needs	2	
Train Hydrometeorological Forecaster	8	8
Total $	90	10